

VCU 02-14  
Amendment dated 11/30/2009

10/565,852

02940323aa  
Reply to office action mailed 07/30/2009

The following is a complete listing of all claims in the application, with an indication of the status of each:

**Listing of claims:**

- 1           1. (currently amended) An apparatus for measuring intra cranial pressure,  
2           comprising:  
3                 an acoustic eye patch conformably adapted to an eyeball of a patient,  
4                 said eye patch having sensors for measuring acoustic signals in the brain,  
5                 without the sensors coming into contact with the skull;  
6                 a sweep generator for applying acoustic signals to the brain across the  
7                 skull of the patient, said signals sweeping a predetermined range, a resonant  
8                 frequency of said eyeball being within said predetermined range; and  
9                 an analyzer for determining an intra cranial pressure from a degree of  
10                damping of an acoustic signal at a resonant frequency of said eyeball of the  
11                patient, said intra cranial pressure being transmitted directly to said eyeball  
12                without interference from the skull of the patient, said resonant frequency and  
13                degree of damping being determined from an output of the acoustic eye patch,  
14                wherein said degree of damping is correlated to a measure of an said intra  
15                cranial pressure;  
16                ~~wherein said acoustic eye patch measures acoustic damping of the~~  
17                ~~acoustic signals and said analyzer uses said acoustic damping frequency to~~  
18                ~~determine intra cranial pressure.~~
- 1           2. (currently amended) The apparatus of claim 1, wherein said predetermined  
2           range is an ultrasonic resonance range ~~and said analyzer determines said~~  
3           ~~resonant frequency of said eyeball and a degree of damping of the acoustic~~

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4       ~~signal at said resonant frequency, and wherein said degree of damping is~~  
5       ~~correlated to a measure of intra cranial pressure.~~

1       3. (previously presented) The apparatus of claim 1, wherein the acoustic eye  
2       patch is adapted to be applied to both eyeballs of the patient.

1       4. (original) The apparatus of claim 2, wherein the predetermined resonance  
2       range is 20-175 kHz.

1       5. (original) The apparatus of claim 1, wherein the acoustic eye patch sensor  
2       is a piezoelectric film.

1       6. (original) The apparatus of claim 3, wherein the analyzer determines  
2       coherence between eyeballs of the patient.

1       7. (original) The apparatus of claim 1, wherein said predetermined range  
2       includes frequencies less than 20 kHz and said analyzer detects retinal artery  
3       pulsations, and wherein pressure is applied to the eye until the retinal artery  
4       pulsations disappear, said applied pressure being a measure of intra cranial  
5       pressure.

1       8. (currently amended) A method for determining intra cranial pressure,  
2       comprising the steps of:  
3               conformably adapting an acoustic eye patch to an eyeball of a patient,  
4       said eye patch having sensors for measuring acoustic signals in the brain,  
5       without the sensors coming into contact with the skull;

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6           applying acoustic signals to the brain across the skull of the patient,  
7           said signals sweeping a predetermined range, a resonant frequency of said  
8           eyeball being within said predetermined range;  
9           determining an intra cranial pressure from a degree of damping of an  
10          acoustic signal at a resonant frequency of said eyeball of the patient, said intra  
11          cranial pressure being transmitted directly to said eyeball without interference  
12          from the skull of the patient, said resonant frequency and degree of damping  
13          being determined from an output of the acoustic eye patch, wherein said  
14          degree of damping is correlated to a measure of an said intra cranial pressure.

1           9. (currently amended) The method of claim 8, wherein said predetermined  
2           range is an ultrasonic resonance range ~~and said analyzer determines said~~  
3           ~~resonant frequency of said eyeball and a degree of damping of the acoustic~~  
4           ~~signal at said resonant frequency, and wherein said degree of damping is~~  
5           ~~correlated to a measure of intra cranial pressure.~~

1           10. (original) The method of claim 8, wherein the acoustic eye patch is  
2           applied to both eyeballs of the patient.

1           11. (original) The method of claim 9, wherein the predetermined resonance  
2           range is 20-175 kHz.

1           12. (original) The method of claim 8, wherein the acoustic eye patch sensor  
2           is a piezoelectric film.

1           13. (original) The method of claim 10, wherein the analyzer determines  
2           coherence between eyeballs of the patient.

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- 1        14. (original) The method of claim 8, wherein said predetermined range
- 2        includes frequencies less than 20 kHz and said analyzer detects retinal artery
- 3        pulsations, and wherein pressure is applied to the eye until the retinal artery
- 4        pulsations disappear, said applied pressure being a measure of intra cranial
- 5        pressure.